

# Factor of Natural Curative Resources in Context of Legal Regulation of Medical Rehabilitation

## Znaczenie naturalnych zasobów leczniczych w kontekście regulacji prawnych dotyczących rehabilitacji medycznej

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### SUMMARY

**Introduction:** Human health is understood as a condition at which physical, psychological and social well-being is maintained when implementing a set of relevant measures directed to its support. The process of recovery of the proper state of health is maintained by measures which have a different character of origin and direction and cover a greater sphere of influence in order to obtain the most positive result when rehabilitating. It is an important component for returning the vital activity which existed before its loss. Natural curative resources as components of the environment play an important role during medical rehabilitation that allows receiving a positive effect while using their therapeutic natural properties.

**Aim:** The article is aimed at researching different sources of legal regulation with respect to using natural curative resources during medical rehabilitation.

**Review and Conclusions:** Integrated, reasonable and rational approaches when improving the rehabilitation process should be based on individual peculiarities of the human body, previous diseases and chosen restoration methods. When studying peculiarities which determine uniqueness of a natural object having therapeutic peculiarities, it is necessary to use their whole spectrum in order to achieve a better result in less time. Legal regulation of the defined set of issues allows outlining certain borders which form the proper behavior and understanding of its consequences. However, consolidation of certain aspects of one set of issues in various sources of legal regulation limits possibility of a more comprehensive and systematic approach to this issue.

**Key words:** natural resources, natural curative resources, rehabilitation, medical rehabilitation, human health, environment

### STRESZCZENIE

**Wprowadzenie:** Ludzkie zdrowie rozumiane jest jako stan pełnego fizycznego, umysłowego i społecznego dobrostanu utrzymany dzięki wdrożeniu odpowiednich środków. Proces odzyskiwania właściwego stanu zdrowia możliwy jest dzięki zastosowaniu środków, które charakteryzują się różnym pochodzeniem i kierunkiem działania oraz obejmują większą sferę wpływów w celu uzyskania najbardziej pozytywnego wyniku podczas rehabilitacji. Jest to ważny element przywracania istotnej aktywności życiowej, która istniała przed jej utratą. Naturalne zasoby lecznicze jako składniki środowiska odgrywają ważną rolę podczas rehabilitacji medycznej i pozwalają uzyskać pozytywny efekt przy wykorzystaniu ich naturalnych właściwości terapeutycznych.

**Cel:** Artykuł ma na celu analizę różnych źródeł regulacji prawnych dotyczących wykorzystania naturalnych zasobów leczniczych podczas rehabilitacji medycznej.

**Przegląd i wnioski:** Zintegrowane, uzasadnione i racjonalne podejście przy doskonaleniu procesu rehabilitacji powinno uwzględniać indywidualne odmienności ludzkiego ciała, wcześniejsze choroby i wybrane metody rekonwalescencji. Podczas badania unikalnych właściwości, które determinują wyjątkowość naturalnej substancji posiadającej właściwości terapeutyczne, konieczne jest wykorzystanie całego spektrum działań w celu uzyskania lepszego rezultatu w krótszym czasie. Regulacje prawne zdefiniowanego zestawu zagadnień pozwalają wytyczyć określone granice, które kształtują właściwe zachowanie i umożliwiają zrozumienie konsekwencji. Jednak konsolidacja pewnych aspektów jednego zestawu zagadnień w różnych źródłach regulacji prawnych ogranicza możliwość bardziej kompleksowego i systemowego podejścia do tej kwestii.

**Słowa kluczowe:** zasoby naturalne, naturalne zasoby lecznicze, rehabilitacja, rehabilitacja medyczna, ludzkie zdrowie, środowisko

## INTRODUCTION

The right to health includes not only health-care services but also conditions that determine our health, including: access to safe drinking water, adequate sanitation and housing, adequate food, healthy working and environmental conditions, and access to health-related education and information [1].

Part 1 of Article 12 of the International Covenant on Economic, Social and Cultural Rights recognize the right of everyone to the enjoyment of the highest attainable standard of physical and mental health. According to the Constitution of the World Health Organization, health is understood as „a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity”. Considering the indicated definition and some scholars' studies, health is determined as physical, mental and social [2].

So, analyzing the specified definition, it can be concluded that the notion of health has a complex character where each component is responsible for the proper development of the human body. However, besides the determined components, the environment and natural resources as its components affect the human body. In the same manner, the proper human condition in its physical, mental and social manifestations also depends on the physical environment in general and the natural environment in particular. Natural capital is the most fundamental of the core forms of capital (i.e. manufactured, human, social and natural) since it provides the basic conditions for human existence. These conditions include fertile soil, multifunctional forests, productive land and seas, good quality freshwater and clean air [3]. Natural potential plays an important role in different spheres of human vital activity, including formation of the public health, a morbidity rate, healing process and restoration of the previous human body condition during rehabilitation.

The specified set of issues is rather important since using natural curative resources during medical rehabilitation allows covering a wider spectrum of positive influences on the human body with minimal side effects. It is necessary to analyze the scientific research of the identified issue and the legal basis for its regulation.

### AIM

The article is aimed at researching different sources of legal regulation with respect to using natural curative resources during medical rehabilitation.

## MATERIALS AND METHODS

The study examines the provisions of international acts, scientists' conclusions and other sources. Furthermore, information from scientific journals is analyzed with the help of scientific methods from a medical and legal point of view. Within the framework of the system approach, as well as analysis and synthesis, the concept of natural curative resources, rehabilitation in general and medical rehabilitation in particular, as well as the importance of natural curative resources in medical rehabilitation has been studied.

## REVIEW AND DISCUSSION

Deterioration of the environment caused by air pollution, noise effect, impact of hazardous chemicals, low quality of water and loss of natural areas combined with changes of lifestyle can be one of the factors significantly increasing obesity incidence, diabetes, diseases of the cardiovascular and nervous system, as well as oncological diseases [4]. The scholars studied general theoretical aspects of different factors which may affect health or may be a prerequisite for health damage [5-8]. However, besides the factors that can harm it, it also is necessary to pay attention to those that allow restoring the proper health. Their investigation has also been paid attention by the authors [9-12].

The environment plays an important role in physical, psychological and social well-being of the human being. Despite significant improvement, it should be noted that there are fundamental differences in the environment and public health both between the European countries and within them. Complex interrelations between the environmental factors and human health should be considered in the geographical, social, economic and cultural context considering a variety of their interactions and cause-effect relationships [4]. It is the integrated approach of the study that allows understanding them more fully and comprehensively, defining, on the one hand, obtaining of possible results, and, on the other, better realizing the factors that give rise to them.

Art. 1 of the General Comments of the Opinion of the European Committee of the Regions on „Health in cities: the common good” [13] recognizes that the concept of health is essential to the well-being of a society... relates not merely to physical survival or the absence of disease, but includes psychological factors, natural, environmental, climate and housing conditions and working, economic, social and cultural life... Encourages initiatives for aim to improve the health and well-being of citizens by connecting citizens with nature, allowing them to benefit from regular access to nature areas in the proximity, promoting regular physical activity and using nature areas for therapeutic interventions along with other health treatments” (Art. 32 of „Environment, housing and healthy diet”).

Various factors including natural ones affect the human health. In particular, active interrelation of the person with the proper environment gives him an opportunity to recreate more quickly, and rational application of healing properties of natural resources accelerates this process.

While the past decade has seen various achievements that give grounds for optimism about improvements in Europe's environment and health in the 21st century, understanding the complexities of what environmental factors cause ill health is clearly going to remain difficult and, very often, the more we know the more we realize what we do not know. It does not come as a surprise, therefore, that scientific and public controversies over environment and health have been (e.g. over leaded petrol and brain damage in children), or are currently (e.g. over antibiotic growth promoters in animal feed and increased human resistance to antibiotics) common

within scientific and public circles [14]. Despite the presence of a sufficient number of hypotheses in establishing cause-effect relationships when identifying diseases and preconditions for their occurrence, the proper quality of the environment once and for all has been contributing to reducing the number of diseases, improving conditions in restoring the body's ability to function after certain diseases.

Natural resources and, first and foremost, their quality directly affect the human health and proper maintenance of the human vital activity. They play an important role equally with other factors when implementing ecological help which is not only about fighting an illness, but also recognizes a patient from inside a world that s/he is affected by and affects, that s/he is understood and understands from [15]. Preservation and improvement of benefits for the human health and well-being, which are achieved by the environment, requires continuous efforts directed at increase of the quality of the environment. Furthermore, these efforts should be added by other actions, including a significant change of the human lifestyle and behavior as well as consumption patterns [4]. In other words, awareness of the value of the human health, understanding that ensuring its proper condition is a result, first of all, of the person's will and efforts employed as well as other components that help to improve it.

One of the aims of the policy of the European Community concerning the environment is protecting human health (Art. 174 of Treaty establishing the European Community). Measures of its achievement include ensuring existence of natural resources of the proper quality which positively affect the human vital activity, not to mention the influence of natural curative resources. That is, with the proper use of their therapeutic properties, they can improve the human condition and performance of vital activity in its various manifestations, in particular in the process of medical rehabilitation.

With deeper understanding of the importance of natural curative resources in the process of medical rehabilitation, we will define their specificity, precisely in the course of the defined activity.

In particular, a natural resource is a feature or component of the natural environment that is of value in serving human needs, e.g. soil, water, plantlife, wildlife, etc. Some natural resources have an economic value (e.g. timber) while others have a "noneconomic" value (e.g. scenic beauty) [16]. Natural resources can also be defined as materials occurring in nature used and transformed by ecosystems and humans, as studied by ecology [17].

So, natural resources present a component of the environment which is essential for meeting different human needs which can be of economic character and others. The secure access to natural resources, both abiotic and biotic, provided by the Earth, i.e. metals, mineral, wood, water, air, and soil, is the basis for human life and socio-economic well-being [18]. Modern societies are exerting increasing pressures on natural resources, ecosystems and landscapes [19]. Rapid consumption and unsustainable use of natural resources has been connected to environmental degradation, resource scarcity, and a decline in biodiversity [20-22].

The abovementioned objects are of great importance on different levels of the social life which is manifested in corresponding forms of their use and involvement into the process of human vital activity.

There have been many ways to subdivide the natural resources, for example, biotic versus abiotic, renewable versus nonrenewable, exhaustible versus nonexhaustible, flows versus stocks versus funds [9, 23, 24]. With different criteria of classification of natural curative resources one can name others, especially those resources which are referred to the presence or absence of curative properties in the spectrum of influence on the human life. However, even those natural resources which do not have curative properties but are of the proper quality have a positive effect according to the relevant indicators.

In scientific researches, the value of natural resources nowadays and appropriate prospects for their use, restoration, protection and preservation has been studied. In order to understand the consequences of adopting a certain perspective, essentially one needs to understand the need of the characterization factors of particular natural resources in the respective perspectives [10]. In particular, they are also concerned with natural curative resources. Awareness of peculiarities of natural curative resources and their importance for the human health defines guidelines in dealing with them and achieving results aimed at protecting, preserving and enhancing them, for instance, according to Art. 12 of para. 1 of the Additional Provisions Law of Health Bulgaria prom. SG. 70/10 Aug 2004, mineral waters are included in "activities of importance for human health" [25].

As a result of the development of environmental and legal relations the natural curative resources are particularly important, because the public interest towards its using is growing constantly. Nowadays there is a real necessity for legal protection of these resources [11].

Natural therapeutic resources can be determined as concentrated under the ground, on the surface and in the sea environment natural mineral resources and springs which have unique chemical composition and sustainable beneficial properties reflected curative and therapeutic effects and can be used in balneal practice on the basis of balneal conclusion [11].

By virtue of their properties, natural curative resources are able to affect the human life. For instance, analyzing relevant provisions of the current legislation of member states of the European Community, namely, Art 8., Section 1 of the Tourism Law Latvia [26], part 1 of para. 2 of the „Spa Act” of the Czech Republic No. 164/2001 [27], para. 2 of the Law of the Slovak National Council No. 538/2005 [28], one concludes that such objects have peculiarities which allow using them for health improvement, treatment and rehabilitation. Particularly, they can be classified by different criteria, for example, by origin, spectrum of influence on the human body, degree of obtaining positive results when using them, etc.

They are a source of meeting the human needs in the context of not only restoring the previous condition, but

also improving it subject to skillful, scientific use of their properties.

One should pay attention to water and forest resources. For example, forests and other natural environments are recognized as fundamental health resources and may play a role in disease prevention [29]. Numerous case studies and epidemiological and observational studies conducted with forest intervention reported positive health and well-being outcomes among the participants who spent time in a forest, and some benefit was shown to be derived even with simply viewing natural environments [30]. Forests represent rich natural pharmacies by virtue of being enormous sources of plant and microbial material with known or potential medicinal or nutritional value. Forests provide rich reserve of compounds that can be utilized in pharmaceuticals and nutraceuticals [31]. Tree and plant extracts contain a variety of bioactive compounds such as polyphenols (including flavonoids, phenolic acids, tannins), phytoestrogens (including lignans), stilbenes, carotenoids, sterols, etc. [32, 33], which possess biological activities such as anticancer activity, antiatherogenic, and antioxidant potential [34].

Furthermore, mineral waters are natural resources which positively affect the human health due to their qualitative properties. Particularly, natural mineral waters, that are „originated from an aquifer or underground reservoir, spring from one or more natural or bore sources and have specific hygienic features and, eventually, healthy properties”. Natural mineral waters are characterized by specific mineral content and are classified on the basis of the main elements that compose them [35]. Experience has shown that local thermal or just mineral waters have beneficial therapeutic effects e. g. on digestive tract or metabolic diseases [36]. Experience has shown that local thermal or just mineral waters have beneficial therapeutic effects e. g. on digestive tract or metabolic diseases [11].

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Identifying the importance of natural curative resources in the process of medical rehabilitation, one should mention that rehabilitation is a conservation measure involving the correction of past abuses that have impaired the productivity of the resources base [37]. Rehabilitation is the process of helping a person who has suffered an illness or injury restore lost skills and so regain maximum self-sufficiency [38]. Rehabilitation is the process of helping a person achieve the highest level of function, independence, and quality of life possible [39]. Based on the World Health Organisation's definition, rehabilitation is „the use of all means aimed at reducing the impact of disabling and handicapping conditions and at enabling people with disabilities to achieve optimal social integration” [40].

Rehabilitation medicine, in turn, is concerned with improving functioning through the diagnosis and treatment of health conditions, reducing impairments, and preventing or treating complications [41, 42]. Rehabilitation refers to the most comprehensive and consistent restoration of health and abilities, following sickness, accident or injury in a clinic that has been especially conceived, qualified and assessed for the rehabilitation [12].

So, the process of health rehabilitation is associated with measures which are aimed at the maximum restoration of its previous condition using measures which depend on different components such as causes of a disease, a disease course, the body's abilities to restoration and others. During medical rehabilitation, more attention, in turn, is paid to procedural peculiarities to achieve the treatment result or restore the human body. Thus, the rehabilitative process targets functioning, the environment, and modifiable personal factors [43].

Rehabilitation is a major part of the chain of treatment and guarantees for the normal or at least acceptable maintenance, however, in most countries of the world, such a complex treatment after operations, injuries or accidents adopted to the patients' needs is not available for some reason. Moreover, some areas of the world could have natural advantages for rehabilitation activities (placement, climate, etc.), which may have no rivalry in other countries. So even a countries with relatively low overall economic potential could „enter the game” using their natural uniqueness [12]. In the context of medical rehabilitation, natural curative resources play an important role in its formation. By virtue of their qualities, they are able to affect physical and mental human condition which is interrelated, so it is necessary to use systemic approaches of influences on physical and mental components. One of the most famous studies in this field demonstrated that people who were hospitalized recovered more quickly with a view of trees than with a view of a brick wall [44].

## CONCLUSIONS

The value of safe environment in general and natural curative resources in particular should be not underestimated. Each category in the researched set of issues has a complementary and causative character. The proper health condition can be possible in the safe environment, but in the event of a disease which negatively affects all its possible manifestations and a process of successful medical rehabilitation, natural curative resources play an important role.

Legal regulation of the defined set of issues allows outlining certain borders which form the proper behavior and understanding of its consequences. However, consolidation of certain aspects of one set of issues in various sources of legal regulation limits possibility of a more comprehensive and systematic approach to this issue. Acceptance of a regulatory legal act able to full regulation of special features of application of natural curative resources in the process of medical rehabilitation would promote structural and profound understanding of the researched aspect.

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**Authors' contributions:**

According to the order of the Authorship

**Conflicts of interest:**

The Authors declare no conflict of interest

**Received:** 20.01.2019

**Accepted:** 25.02.2019

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*Informacja prasowa*

## X Konferencja Naukowo-Szkoleniowa, 24-25 maja 2019 r., Okuninka

### „Fizjoterapia w schorzeniach i urazach narządu ruchu”

Tematyka referatów na Konferencji m.in.:

„Fizjoterapia w przygotowaniu do zabiegów rekonstrukcyjnych i leczeniu pooperacyjnym stawów kolanowych”

„Staw ramienny – zasady usprawniania i oczekiwania terapeutyczne w okresie przed- i pooperacyjnym”

„Procedury fizjoterapeutyczne w problematyce stawu rzepekowo-udowego”

„Problemy ortopedyczne dzieci urodzonych przedwcześnie”

„Postępowanie fizjoterapeutyczne w urazach narządu ruchu okresu wczesnodziecięcego”

„Zachowawcze postępowanie fizjoterapeutyczne w przebiegu choroby Legg Calvego- Perthesa”



**Organizator:**

Eres Medical Sp. z o.o. (www.eresmedical.com.pl)

**Współorganizatorzy:**

Polskie Towarzystwo Fizjoterapii – Lubelski Oddział Wojewódzki,  
Stowarzyszenie Fizjoterapia Polska – Lubelski Oddział Wojewódzki

**Patronat merytoryczny:**

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Wygłoszone podczas Konferencji prace, po spełnieniu tematyki i regulaminu przygotowania do druku oraz pozytywnej recenzji, zostaną opublikowane w czasopiśmie Acta Balneologica – www.actabalneologica.pl (indeksacja w Web of Science ESCI, MNiSW, Index Copernicus, Polska Bibliografia Lekarska).

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